REMARKS/ARGUMENTS

Claims 1, 2, 4-9 and 11-21 are pending herein. Claims 1, 2, 4 and 15 have been amended hereby to clarify that the rounded corners of the flexures are outer corners. Applicant respectfully submits that support for this amendment can be found in Figs. 6A-13, for example, and that no new matter has been added.

This Amendment is proper under Rule 116 because the claim amendments do not create any new issues and the amendments place the application in better condition for appeal, if necessary. Accordingly, Applicant respectfully requests entry of this Amendment.

1. Examiner Paik is thanked for courtesies extended to Applicant's undersigned representative during the telephonic interview on September 7, 2006, the substance of which is incorporated below.

2. Claims 1, 15-17, 19 and 20 were rejected under §102(b) over Kano. Applicant respectfully traverses this rejection for the reasons set forth in the Amendment filed June 8, 2006, the entirety of which is incorporated herein, and for the further reasons explained below.

Independent claim 1 recites a heater comprising a plate including a heating surface which heats an object to be heated, and a resistance heater element provided in the plate. The resistance heater element comprises a continuous wiring pattern including a plurality of flexures and a uniform thermal pattern portion, wherein an area between immediately radially adjacent outer corners of immediately radially adjacent flexures is varied to improve thermal uniformity between said adjacent flexures.

Independent claim 15 recites a heater comprising a plate including a heating surface which heats an object to be heated, and a resistance heater element provided in the plate. The resistance heater element comprises a wiring pattern including a plurality of concentrically disposed element lines having terminals for input/output of

electric power, and each element line includes a winding pattern. At least one element line passes between the terminals by means of a flexure which includes a swollen portion having substantially rounded outer corners that curve in an asymptotic direction with respect to at least one of an adjacent portion of that element line and an adjacent portion of another immediately adjacent element line. Claims 16, 17, 19 and 20 each depend directly or indirectly from independent claim 15.

With respect to independent claim 1, Applicant respectfully submits that Kano does not show that the area between immediately radially adjacent corners of immediately radially adjacent flexures varies. That is, the portion of Kano's drawing figure shown in Exhibit A that Examiner Paik identified as the "varying portion" is not the area between the immediately radially adjacent corners of the flexures, as claimed. Applicant's representative explained this to Examiner Paik during the telephonic interview, making specific reference to Examiner Paik's own annotations shown on Exhibit A. In response, Examiner Paik then asserted that the word "corner" could be broadly interpreted to encompass other parts of the adjacent flexures, including the adjacent end parts of the flexures between which the area varies. Applicant respectfully submits, however, that that this position is not only incorrect, but is it is not even reasonable in view of the commonly understood definition of the word corner (the point or angle where two lines intersect). At that time, Examiner Paik suggested that it would be helpful to clarify that the corners in question are the immediately radially adjacent outer corners of the immediately radially adjacent flexures. Although Applicant maintains that independent claim 1 defines patentable subject matter over Kano without requiring any further amendments, claim 1 has been rewritten in a cooperative effort to conclude the prolonged prosecution of this application, and now recites that the area which varies according to claim 1 is the area between immediately radially adjacent outer corners of the respective flexures.

With respect to independent claim 15, Applicant respectfully submits that Kano simply does not disclose any rounded corners that curve in an asymptotic direction in the claimed manner. Applicant's representative explained this during the telephonic

interview, as well, referring to Figs. 11-13 of the present application as illustrative examples of such asymptotic directions. Moreover, the only corner in Kano which is even arguably rounded is shown at the inner bend of the flexures, as Examiner Paik annotated in Exhibit A. Applicant respectfully submits that such inner bends are not, and cannot reasonably be considered to be an outer corner, as claimed.

For at least the reasons explained above, Applicant respectfully submits that Kano does not disclose each and every feature recited in independent claims 1 and 15. Accordingly, Applicant respectfully submits that independent claims 1 and 15, and all claims depending directly or indirectly therefrom, define patentable subject matter over Kano, and respectfully requests that the above rejection be reconsidered and withdrawn.

3. Claim 21 was rejected under §102(e) over Fure. Applicant respectfully traverses this rejection for the reasons previously submitted in the June 8, 2006 Amendment and for the further reasons explained below.

Independent claim 21 recites a heater comprising a plate having a heating surface which heats an object to be heated, at least one hole formed in the plate, and a resistance heater element provided in the plate. The resistance heater element comprises a continuous wiring pattern including a plurality of flexures connecting a plurality of radially sequential, substantially concentric arc portions, and a plurality of radially sequential curved avoidance portions respectively formed in the radially sequential arc portions. The avoidance portions have a radius of curvature that deviates from a radius of curvature of the arc portions to circumvent the at least one hole, and the radius of curvature of each avoidance portion on each radially sequential arc portion increases as a radial distance between each avoidance portion and the hole increases.

Applicant respectfully submits that the language presently recited in claim 21 does, in fact, distinguish Fure, and clearly conveys that the plurality of radially sequential curved avoidance portions are respectively formed in the plurality of

radially sequential, curved arc portions, and that the radius of curvature of each avoidance portion on each radially sequential arch portion increases.

During the telephonic interview, Examiner Paik continued to assert that the inner edge of Fure's element line could be considered a first curved arc portion, that the outer edge of that same element line could be considered a second, radially sequential and substantially concentric curved arc portion, and that the inner and outer parts of the avoidance portion could also be considered to be separate, radially sequential curved avoidance portions. Applicant respectfully submits, however, that this overly broad interpretation is incorrect, because the inner and outer edges of the same arc portion cannot be considered to correspond to the claimed plurality of radially sequential curved arc portions in view of the specific features recited in claim 21. For example, claim 21 recites that the resistance heater element comprises a continuous wiring pattern and a plurality of flexures connecting the curved arc portions. Applicant respectfully submits that there are no flexures in Fure that connect the inner edge of one element line arc with the outer edge of the same element line arc, and that the arcs in Fure, as defined by Examiner Paik, are parallel because they are merely opposing sides of the same line.

For at least these reasons, Applicant respectfully submits that Fure does not disclose each and every feature of independent claim 21. Accordingly, Applicant respectfully submits that claim 21, and all claims depending directly or indirectly therefrom, define patentable subject matter over Fure, and respectfully requests that the above rejection be reconsidered and withdrawn.

4. Claims 2, 4, 5, 8, 9, 11, 13 and 14 were rejected under §103(a) over Fure in view of Mizuno, and claims 6, 7 and 12 were rejected under §103(a) over Fure in view of Mizuno and further in view of Yoshida. Applicant respectfully traverses these rejections.

Independent claim 2 recites a heater comprising a plate including a heating surface for heating an object to be heated, and a resistance heater element provided in

the plate. The resistance heater element comprises a continuous wiring pattern including a plurality of radially sequential wirings having a plurality of radially adjacent folding parts, the folding parts having substantially rounded outer corners and a substantially straight connection portion connecting the substantially rounded outer corners of the folding parts. A first distance between a portion of one of the wirings before the wiring is folded to form one of the folding parts and an opposed, immediately radially adjacent portion of the wiring after the wiring is folded to form the folding part is substantially constant, and a second distance between a portion of the wiring at one end of the folding part and an opposed, immediately radially adjacent portion of the wiring at the other end of the folding part is greater than the first distance.

Independent claim 4 recites a heater comprising a plate including a heating surface for heating an object to be heated, and a resistance heater element provided in the plate. The resistance heater element comprises a continuous wiring pattern including a plurality of radially sequential wirings having a plurality of radially adjacent folding parts. The folding parts include a substantially linear connection part and have outer corners provided at both ends of the connection part, wherein at least one of the outer corners of the folding parts is substantially rounded and swollen to protrude outwardly. A first distance between the radially sequential wirings in a first region of the wiring pattern other than a second region of the wiring pattern proximate the folding parts is substantially constant, and a second distance between the radially sequential wirings in the second region is greater than the first distance.

Applicant respectfully submits that Examiner Paik's interpretation of Mizuno's Fig. 2 is overly broad and speculative, at best. For example, Mizuno does not disclose any substantially straight connection portions that connect any substantially rounded outer corners of the folds, as claimed, because in Mizuno, the only corners that are even possibly rounded are the inner corners at the bends. Moreover, Applicant respectfully submits that if Examiner Paik should insist on relying on the artist's rendition in Mizuno's Fig. 2 to contend that Mizuno at least suggests rounded corners,

then the fact that Mizuno only possibly suggests rounded inner corners, and that those rounded inner corners are not shown to be connected by straight portions, should also be given due consideration. The only arguably straight connection portions in Mizuno's pattern instead connect the outer corners of the bends, but those corners are not rounded, as claimed.

Further, Applicant respectfully submits that Mizuno's rounded inner corners do not protrude outwardly from the flexures, as claimed. Instead, Mizuno's Fig. 2 suggests that these rounded portions of the inner bends protrude inwardly with respect to the wiring pattern.

Apart from the missing structural limitations discussed above, Examiner Paik also asserted that it would have been obvious to provide Fure's pattern with the rounded corners, straight connection parts and the spatial relationships recited in claims 2 and 4 based only on what is *suggested* by Mizuno's Fig. 2 in order to "provide uniform heating distribution along the heating surface." Applicant respectfully refers to the arguments previously submitted regarding this point, and asks Examiner Paik to identify any portions of Mizuno that expressly disclose or even reasonably tend to suggest that the rounded inner corners shown in Fig. 2 bear any relationship whatsoever with respect to either the shape of the outer corners or to providing the uniform heating distribution characteristics that Mizuno otherwise attributes to the inner and outer element arrangement of the overall pattern. During the telephonic interview, Examiner Paik continued to argue that it would have been obvious that the rounded corner feature allegedly shown in Mizuno was at least partly responsible for the benefits of Mizuno's heater simply because it is shown in Fig. 2. Applicant respectfully submits, however, that this position is completely without merit, at least because there is no description in Mizuno regarding the shape of the inner corners of the bends at all, much less anything regarding whether rounding these corners or the rounding dimensions would be any kind of controlling factors with respect to controlling the heat distribution. In addition, those curved inner bends are not specifically identified or even labeled in any of Mizuno's drawings, and the inner

shapes are not even shown or represented to be the same at every bend shown in Mizuno's Fig. 2. Indeed, the rounded inner corners at the bends are not claimed, described or otherwise mentioned at all in Mizuno's disclosure. One skilled in the art would not have had any reasonable expectation that the inconsistently rounded inner corners in Mizuno's Fig. 2 would provide any benefits to the overall structure, and could not possibly have been motivated to assume that such otherwise undisclosed benefits would automatically be attributed to the outer corners, and thereby round the outer corners of the pattern.

For at least the reasons explained in the June 8, 2006 Amendment, and further in view of the explanations outlined above, Applicant respectfully submits that independent claims 2 and 4, and all claims depending directly or indirectly therefrom, define patentable subject matter over the applied references. Accordingly, Applicant respectfully requests that the above rejections be reconsidered and withdrawn.

If Examiner Paik believes that contact with Applicants' attorney would be advantageous toward the disposition of this case, he is herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,

October 19, 2006
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